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Support for AppleWorks and ///EZ Pieces Users

Enhance Your Apple for Enhanced AppleWorks

Last month's editorial described new TimeOut modules soon to be released for AppleWorks. With the availability of powerful macro routines, a pop-up spelling checker, a thesaurus, numerous desk tools, a competent file management module, telecommunications abilities, and multiple desktops and clipboards, AppleWorks is now a full-featured integrated program that can serve as a complete working environment. However, these enhancements have their cost.

We Must Upgrade Our Apples

The problem is not our ability to acquire and learn the new TimeOut modules; they are within the financial reach and cognitive grasp of virtually all AppleWorks users. The problem is the limitations of our hardware. While it is true that the TimeOut modules can run on a 128K Apple equipped with two 5.25-inch floppy disk drives, trying to operate in that environment is akin to riding your bike in a storm...it can be done, but who wants to do it? TimeOut-enhanced AppleWorks is a large program; it works best when you have a lot of on-line storage.

What Hardware Do You Need?

There are two ways to equip your Apple to make TimeOut-enhanced AppleWorks convenient and fast. First, you can increase the memory in your machine. If you have extra memory in your Apple, you can load AppleWorks and the TimeOut modules into memory and the program flies. (*For more information about TimeOut and RAM cards, see the article "How to Use TimeOut with Expanded Memory Cards" in the March 1988 issue of the AppleWorks Forum.*)

How much memory will you need? If you just want to use QuickSpell and UltraMacros, 1-megabyte is sufficient. If you plan to use more than one or two TimeOut modules, you will want at least 2-megabytes of expanded memory in your

Apple. Since it takes quite a while to load AppleWorks and all the TimeOut modules onto this memory card, either plan to leave your Apple on all the time or get a backup power source to keep the programs on your memory card.

An alternative to expanding your Apple's RAM is to enhance the size and speed of your disk storage system by adding a hard disk drive to your Apple. Hard disk drives are fast, convenient, and reasonably priced, when you consider the alternatives. You can buy a 20-megabyte hard disk drive and interface card for less than \$600. The hard disk is significantly faster than either 5.25-inch or 3.5-inch floppy disks and eliminates the disk swapping you must do to run TimeOut-enhanced AppleWorks on a floppy-disk system. In addition, you can store your data files and other programs on the same hard disk and eliminate the inconvenience of swapping disks.

What Does TimeOut Really Cost?

Taken individually, the TimeOut modules are relatively inexpensive. But the heavy AppleWorks user is going to want a number of these modules. In addition, the hardware you will want to run TimeOut-modified AppleWorks adds substantially to the overall cost of your Apple system.

AppleWorks Forum

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Should You Replace Your Apple?

If you have a IIGS, you already have a significant investment in an up-to-date Apple computer. There is no doubt you should make the additional investment necessary to be comfortable with enhanced versions of AppleWorks.

If you have an Apple IIe, you face a serious question: Should you spend between \$400-\$1,000 to upgrade your present Apple system, or is now the time to move from your Apple's older technology to a new IIGS or to a Macintosh or IBM-compatible?

If your primary application is AppleWorks, we think the answer is to stay with your IIe. While \$1,000 is a significant expenditure, it is far less than the cost of any replacement system. For \$1,000 you will have a 2-megabyte Apple equipped with a 20-megabyte hard disk and all the TimeOut modules. Similar Macintosh and MS-DOS systems cost about \$3,000 when comparably equipped ... *before* you buy the software.

In addition, you should find it more convenient to keep your IIe than to convert to a different system. You know the reasons you like AppleWorks; it is fast, powerful, and easy to learn and use. While Microsoft Works, an AppleWorks work-alike, is now available for the Macintosh and IBM-compatibles, Works lacks many of the features of TimeOut-enhanced AppleWorks. And Works is no faster than AppleWorks. It's no wonder that NAUG gets dozens of letters asking how to run AppleWorks on MS-DOS computers.

Finally, you are familiar with AppleWorks. You would have to learn Works or some other harder-to-learn series of programs to duplicate its functions. Then you would either have to convert all your AppleWorks files to your new machine or keep both your Apple II and new computer available to let you access all your existing data.

What if You Have a IIC?

If you own an Apple IIC, you face a more serious problem. You cannot expand the memory in your IIC far beyond one megabyte, nor can you add a hard disk to your computer.

A 1-megabyte IIC is satisfactory if you can limit yourself to QuickSpell and UltraMacros. If you add a 3.5-inch Unidisk system to your IIC you can keep additional TimeOut modules on-line, although they run slower from a 3.5-inch disk than from a memory card or a hard disk system. However, at \$400, Apple's 3.5-inch UniDisk is expensive, and none of the third-party 3.5-inch disk systems work on the IIC.

Our recommendation: If you have already expanded your IIC to one megabyte, try to work within that limitation. If you have a 128K IIC, want to take advantage of the TimeOut modules, and can justify the expense, it is time to look at a IIGS with two megabytes of RAM or a 20-megabyte hard disk drive.

Is AppleWorks Worth It?

The options available for AppleWorks continue to grow. If you are willing to limit yourself to one or two TimeOut modules and do not mind doing some disk swapping, you can buy the TimeOut modules and enhance AppleWorks for relatively little cost.

If you want speed and convenience, you have a number of alternatives, including upgrading your Apple to the suggested 2-megabyte minimum, adding a hard disk to your system, or both. Certainly, there are many reasons to upgrade your system to run TimeOut-enhanced AppleWorks instead of buying a new system. But the route you take depends on your financial situation and on how much you use AppleWorks.

A friendly word of caution: If you cannot justify either the memory expansion or hard disk options, be careful not to sit down at a computer running a TimeOut-enhanced AppleWorks with a hard disk or RAM card...you will never again be happy with your own system.

The **National AppleWorks Users Group (NAUG)** is an association that supports AppleWorks users. The group provides assistance to members and information about the AppleWorks program. Our primary means of communicating with members is through the monthly newsletter entitled the **AppleWorks Forum**.

Help Restoring a Data Base File

Dear Cathleen,

I use the AppleWorks data base module to maintain a list of my ham radio contacts throughout the world. Suddenly, I am having a problem; I cannot add records nor rearrange one of my data base files. Everything works correctly until I issue an Apple-I command to insert records or an Apple-A command to rearrange the data. I tried different copies of AppleWorks and the data file, but the same problem occurs.

The file contains 1505 records and takes approximately 100K of desktop space. I am using version 1.4 of ProDOS 8, and version 2.0 of AppleWorks enhanced with Applied Engineering's AppleWorks 2 Expander. My hardware consists of an Apple IIGS with 1.5 megabytes of GS-RAM memory.

Is there any way to restore this file without having to re-enter all 1505 records?

Martin Miller
Melville, New York

[Warren Williams replies: The article entitled "How to Recover Damaged Data Base Files" in the March 1988 issue of the AppleWorks Forum describes some procedures that can help you restore your data file. However, since you can read your file into AppleWorks, there is an easier technique that should work. I learned this procedure from Dale Therio, Technical Support Manager at Applied Engineering.]

The technique is to get the damaged data base file onto the desktop, write all the data into an ASCII file, and use that file to create a new AppleWorks data base file.

The 1.5 megabyte of RAM in your IIGS should make the process easier. When you print a data base file to disk in ASCII format, the resulting file is much larger than the original AppleWorks data base. You can configure the extra memory in your computer as a RAM disk and store the ASCII file on that "disk", making the process faster and more convenient.

Follow these steps:

1. Allocate at least 1-megabyte of memory to a

RAM disk. On a IIGS you set up a RAM disk from the Control Panel. On other Apple II series computers, you will need software provided by the vendor of your expanded memory card. (Ed: See "An Introduction to RAM Disks" in the September 1987 issue of the AppleWorks Forum.)

- 2. Boot AppleWorks and load your damaged data base file onto the desktop. Note how many categories are in this file; you will need to know that later.*
- 3. With the single record layout on your monitor, issue an Apple-H command and print a copy of the single record layout screen. That will save time later when you need to re-enter the category names.*
- 4. Issue an Apple-P command and indicate you want to create a tables format report. Assign any name to this report and accept the default format that appears on your screen. Your output will contain all the data in your file, even if the default column widths on your screen are too narrow.*
- 5. Issue another Apple-P command and print the report as an ASCII file. If you have a RAM disk, specify the pathname that will store the file on your memory card. If you do not have a RAM disk, try to fit the ASCII file onto a formatted floppy disk. If the file is small, it will fit on a 5.25-inch disk. Larger files will require an 800K 3.5-inch disk. It takes a while to "print" this file, particularly onto a floppy disk, so be patient.*
- 6. Return to the AppleWorks Main Menu and remove the original data base file from the desktop.*
- 7. Indicate you want to create a new data base file from a text (ASCII) file on your disk. Indicate the number of categories in your original file and specify the pathname to the file stored on your RAM disk or floppy disk. Assign a new AppleWorks name to your file.*
- 8. Issue an Apple-N command and change the default category names to the names you want in your file. Here is where your screen print of the single record layout saves time.*

Letters...

9. *Issue an Apple-S command and save a copy of this new data base file on your disk.*

This is another example of how you can use the power and flexibility of AppleWorks in ways never anticipated by the author.]

What Does a "No 'SYS' Files" Message Mean?

Dear Cathleen:

An article in the February 1988 issue of the *AppleWorks Forum* suggested that I replace the original version of ProDOS on my AppleWorks Startup Disk with Version 1.4 of ProDOS. I followed the steps in the newsletter and everything seemed to work perfectly. But now, when I quit AppleWorks, I get a message saying "No 'SYS' Files" instead of the usual "Enter pathname of next application" message. Am I doing something wrong? Are my AppleWorks data files in jeopardy?

Sam Cova
Livonia, Michigan

[Ed: You did nothing wrong, Sam. Your copy of AppleWorks and your data files are secure and undamaged.

You replaced your early version of ProDOS with version 1.4 from a TimeOut disk. The TimeOut disks contain a version of ProDOS that is enhanced with a "Program Selector" developed by Alan Bird. When you quit AppleWorks, the Program Selector automatically checks one of your input devices (usually a disk drive) for a system file. (A system file is a program used to start an application. For example, the file APLWORKS.SYSTEM is the system file that starts AppleWorks.) If the Program Selector finds one or more system files on the disk, it gives you a list of those files. To launch a program you should use the arrow keys to highlight a file that ends with ".SYSTEM" and then press the Return Key.

If there are no system files on the disk checked by the program selector, you get the message "No 'SYS' Files". If you press the Escape Key, the Program Selector will check the next device.

The Program Selector is especially useful if you have many storage devices like 5.25-inch disks, 3.5-inch disks or RAM disks on your Apple. By repeatedly pressing the Escape Key you can check each device. Once you find the program you want to run, you use the Arrow Keys to highlight the appropriate system file, and press the Return Key. No longer do you have to remember and type the system file names.]

Buying Multiple Copies of AppleWorks

Dear Cathy,

I do a lot of work helping schools set up their computer facilities and AppleWorks is always in heavy demand. When Apple owned AppleWorks, schools could buy 10-packs for their laboratories at reduced prices. Now that Claris owns AppleWorks, are reduced prices for multiple copies still available?

Suzanne Dempster
Ann Arbor, Michigan

According to Allison Elliott, AppleWorks Product Manager for Claris, 10 packs of AppleWorks are still available at reduced prices to educators. Some people may have experienced problems buying the 10-packs because they are not listed in the Claris price list. Instead, they are in Apple's price list for education products. Interested educators can contact any authorized Apple Dealer and order part #90900 from the education price list. Prices for the school packs vary according to the number ordered, and the type of contract a school district has with Apple Computer.

Lissner, Brandt to Speak at NAUG Seminars

The National AppleWorks Users Group will present three day-long AppleWorks seminars (Workshop IIB) at AppleFest '88 in Boston, May 19-21. Participants at these workshops will include Robert Lissner, author of AppleWorks, and Time-Out developer Randy Brandt. For additional information, contact AppleFest at (800) 262-FEST.

Clariss to Release Network-Compatible AppleWorks

by William Marriott

Clariss Corporation announced recently a new version of AppleWorks, called "AppleWorks/Network", that will run on Apple's AppleTalk network.

AppleTalk is presently used to connect Macintosh computers, which share printers and exchange files through the network. This summer, Apple Computer will release an AppleTalk card for the IIfx, and network software for the IIGS (the IIGS has the AppleTalk hardware built-in).

AppleWorks/Network will let up to 30 people use AppleWorks simultaneously. It requires a Macintosh computer running AppleShare network software. Workstations require a IIGS with network software, or a IIfx with an AppleTalk card.

The new AppleWorks lets users share data files and transfer information between AppleWorks and Macintosh programs. Apple II computers connected to the network can start AppleWorks without using any disks. Software on the Macintosh controls file access and security.

A Clariss spokesman said the network version of AppleWorks will appeal to educators because it simplifies disk management in classrooms and does not require disk drives at each student's computer.

Other than the network enhancements, AppleWorks/Network has the same features as AppleWorks 2.0. Clariss says AppleWorks/Network will be available when Apple Computer releases the necessary hardware and software for Apple IIs this summer. The list price for AppleWorks/Network is \$1,616. Prices are not yet available for the IIfx AppleTalk card or for the IIGS network software. Contact Clariss Corporation at 440 Clyde, Mountain View, Calif. 94043. ■

Make Report Names Meaningful

by Barbara Snell

If you use the AppleWorks data base module, you know that AppleWorks "remembers" up to eight different table or label report formats for each data file. The first time you need a report, you define its format. In the future, you can select that format from the Report Catalog.

Here are two ideas to help you remember the format of each report:

1. Use descriptive report format names that differentiate between the reports. You can use up to 19 characters in each report format name.
2. Start the name of each table format report with the letter "t" and each label format report with the letter "l". If you use that coding scheme, "l.addresses" on your Report Catalog is obviously a name and address label format. "t.addresses" is the format for a list of names and addresses.

Figure 1 contains a list of the report formats on my address list data base. The "t" or "l" helps you understand the purpose of each report. ■

Figure 1: Report Catalog

Current report formats:

1. l.all addresses
2. t.all addresses
3. t.for mail merge
4. t.phone directory
5. l.relatives
6. t.relatives
7. l.clients
8. t.clients

[Barbara Snell is a Computer Specialist with the District School Board of Pasco County, Florida.]

A Word From The Wise.

"Beagle Bros' TimeOut series puts every enhancement you could dream of right inside AppleWorks."

Paul Statt, inCider

"TimeOut Graph works seamlessly; if you didn't know better, you'd swear it was part of AppleWorks. I'm very impressed with TimeOut."

Owen Linzmayer, Nibble

"I personally find this series very exciting. The entire series of programs belongs inside of every serious AppleWorks user's repertoire!"

Marc Apfelstadt, Call-APPLE

"Beagle Bros' foray into the applications arena is impressive. The TimeOut series add-ons are easy to use and they interact with AppleWorks perfectly."

TimeOut SuperFonts print quality is excellent, and makes you think you have a Macintosh hidden inside your Apple II. The TimeOut series is a major breakthrough for AppleWorks owners."

**Gregg Keizer,
Compute!'s Apple**

"The TimeOut series is the best thing to come along for AppleWorks users."

**Lee Hayward,
TAWUG**

"TimeOut UltraMacros is incredible. TimeOut QuickSpell is a work of true genius. I love this program."

Tom Weishaar, Open-Apple

"TimeOut DeskTools does its work at blinding speed. Beagle Bros has done its homework. The breadth and quality of this opening salvo in the AppleWorks enhancement wars bodes well."

Charles Rubin, A+

"It is rare a program impresses me as much as the TimeOut series did. After installing the programs and seeing the speed, all I could say was WOW. As far as I am concerned, if you use AppleWorks you need TimeOut. Period!"

Jay Wilbur, Uptime

"TimeOut 'fits' AppleWorks like a glove and in no time you get the feeling that it 'belongs' with AppleWorks. TimeOut SideSpread is terrific. TimeOut FileMaster is indispensable."

**Ib Thorsteinsson, Robert
Grist, Lorne Walton,
Apples B.C. News**

"The TimeOut series programs are excellent AppleWorks enhancements."

**Warren Williams,
NAUG AW Forum**



Beagle Bros
MICRO SOFTWARE

How to Develop Invoices and Other Business Templates

by Nancy A. Carr, Cathleen Merritt, and Warren Williams

Here are step-by-step procedures that describe how to use the AppleWorks spreadsheet module to generate business forms. This article describes how to generate invoices and suggests many useful techniques you can use to develop other spreadsheet templates.

Do you have to fill out many business forms? You use AppleWorks for so many applications, why not use the program to make it easy to maintain and use those forms?

This article describes how to use the AppleWorks spreadsheet module to prepare invoices. You should be able to generalize these procedures to other forms you need for your office or home. Throughout this article, we will assume you know the basic AppleWorks spreadsheet commands.

Develop a Template

The technique is to develop a "template". A template is a pattern; a blank form with all the formula and labels inserted, but no data. When you want to fill out the form, you call the appropriate template onto your desktop, change the name of the file so you don't overwrite your template, enter your data, print the completed form, and save a copy of the document on disk. This is one step toward reducing paper flow in your office; you keep an electronic copy of the invoice while your client receives a paper copy.

Plan Ahead

The first rule when developing a good business form is to plan ahead. You want your form to serve as a template, which can be used repeatedly without modification.

Start by sketching the form on accountant's paper, which has pre-defined rows and columns: Do not do your initial planning on the computer. This pro-

cess is easier if you can get a copy of the form currently in use or forms from other companies. Office supply stores often have a collection of pre-printed forms that can be used as models. Remember that your form will need your company's letterhead, space for complete shipping and billing information, and room for purchase order and invoice numbers. In addition, your form must be self-explanatory; e.g., it should include appropriate headings and comments.

Figure 1 contains illustrations of the three stages of template development: a professional form you can use as a model, a sketch that contains the basic formulas you will need to run the spreadsheet, and a picture of the completed template.

Prepare Your Template

Once you have finished your sketch, it is time to boot up AppleWorks and indicate you want to prepare a new spreadsheet from scratch. A good name for the file might be "Invoice.Format".

Then set these Apple-V options:

1. Set the calculations to "manual". This is a good first step for any spreadsheet you develop.
2. Turn off the protection feature. Later you will use AppleWorks' ability to protect your work.
3. Specify that all labels should be right justified. That will make it easier to line up your column headings with the numeric data in that column.

7. Move the cursor to cell C17 and type "Stock #".
8. Move the cursor to cell D17 and use the Layout Command (Apple-L) to widen the column to at least 25 spaces.
9. With the cursor still in cell D17, type "Description".
10. Use the Apple-L command to center the label "Description" in cell D17.
11. Move the cursor to cell E17 and use the Apple-L command to change the column width to 12 characters. Enter the label "Unit Price" in that cell.
12. Move the cursor to cell F17 and use the Apple-L command to change the column width to 12 characters. Enter the label "Total" in that cell.

Make the Column Headings Readable

Now that the column headings appear in row 17, you will draw a dashed line under those labels to set them off from the data you will enter into your invoice.

13. Your line will consist of a row of hyphens, but the hyphen key is ambiguous to the AppleWorks spreadsheet. The program cannot tell if you want to enter a minus sign for a formula or

a hyphen for a label. By entering a quotation mark, you declare that this entry consists of text; that it is a label. Move the cursor to cell A18 and type a quotation mark (").

14. Hold down the hyphen key and type a row of dashes across columns A-F.

Enter the Formulas

15. Move the cursor to cell F19 and enter the formula that computes the cost: $+A19 * E19$. A zero will appear in that cell.
16. Use the Copy Command (Apple-C) to copy the formula in cell F19 to cells F20 through F28. Specify that all cell references should be "relative". That means you want the formula in each cell adjusted so it refers to the entries in that row, not to the cells specified in the original formula. *[Ed: If you are unsure about using Apple-C, read "How To Use the Copy Command" on the next page.]*
17. You want row 29 to contain dashes. Put the cursor in cell A29, type a quotation mark to indicate you are entering a label, then hold down the hyphen key to type dashes across columns A-F.

Planning for Business Forms

Planning ahead is important if you are going to produce useful business forms. Consider the following suggestions:

1. Do your planning on blank pieces of accounting paper, not on the computer. It is easier to view the entire form and consider different ideas when you work on paper than when you work directly on the computer.
2. Try to make your form flexible. For example, if you are preparing invoices, make certain you allow for the largest of transactions. Set up your templates so they can be used without modification.
3. If your business allows, set up your template so you can print

on standard computer paper instead of pre-printed forms. It is less expensive to print on standard paper and you do not have to change the paper in your printer. In addition, you have to line up forms precisely in your printer; plain paper does not require that degree of precision.

4. Plan your template so you print one form on each 8½ x 11-inch sheet of paper. Do not try to conserve paper by printing on smaller pages. It is generally inconvenient and time consuming to have to change paper. For a business, preparing templates for different size paper is false economy.
5. If you must print on pre-printed forms, consider connecting a second and possibly a third printer to

your Apple. Use one printer for standard computer paper and a separate printer to print on your forms. You can use a third printer to print on envelopes.

It is easy to use more than one printer with AppleWorks. You can put additional interface cards in your Apple's unused expansion slots. Apple IIc and IIGS owners can hook a second printer to their computer's modem port. Finally, you can use an inexpensive switch box to change between printers.

Good printers (e.g., the Citizen 120D) are now available for as little as \$220; it is relatively easy for a business to recover the cost of these inexpensive printers.

—Cathleen Merritt

18. Move the cursor to cell E30 and type "Subtotal".
19. Move the cursor to cell F30 and enter the formula @SUM(F18...F29). You want the cell references in this formula to extend one cell above and one cell below your list of numbers. Then you can insert rows at the bottom of the form if you need space.
20. Move the cursor to cell E31 and type "Sales Tax".
21. Move the cursor to cell F31. If you have version 2.0 of AppleWorks, enter the formula @ROUND((F30*.06),2) to calculate the tax rate. If you have an earlier version, enter the formula @INT(((F30*.06)+.005)*100)/100. Both formulas calculate the tax rate and then round to whole cents. The formulas assume your locality has a 6% sales tax; you should substitute your local tax rate for the number .06 in either formula.
22. Move the cursor to cell E32 and type "P/H" to indicate Postage and Handling.
23. Move the cursor to cell F32 and enter either a formula to compute your postage handling fee based on the total amount of the order or enter a fixed fee for every order.
[Ed: A future issue of the AppleWorks Forum will describe how to use the @LOOKUP function to compute postage or discounts dependent on total order.]
24. Move the cursor to cell F33, type a quotation mark, then type 12 dashes.
25. Move the cursor to cell E34 and type TOTAL.
26. Move the cursor to cell F34 and type @SUM(F30...F33).

How to Use the Copy Command

The Copy Command is one of the most important features built into the AppleWorks spreadsheet module. This command lets you enter a label, value, or formula once and duplicates your entry in one or more cells. When you copy a formula, the Copy Command asks you if you want to adjust the formula so it refers to cells that are appropriate for the formula's new location(s). Unfortunately, spreadsheet beginners often have difficulty using the Copy Command. Follow these steps:

1. Put the cursor in the cell you want to copy *from*. In our example, this is cell F19.
2. Invoke the Copy Command with an Apple-C and indicate you want to copy within the worksheet by pressing the Return Key.
3. The cursor is already in the cell you want to copy from (the "source"). Press the Return Key.
4. Press the Down-Arrow Key once to put the cursor in the first cell you want to copy *to*, in this case, cell F20.
5. Press the Period Key to indicate that you want to copy the formula to a range of cells. (If you want to copy your formula into a single cell, move the cursor to the "destination" and press the Return Key.)
6. Use the Down-Arrow Key to move the cursor to the last cell you want to copy to. In our example, this is cell F28. All cells that will receive the formula should now be highlighted. Press the Return Key.
8. AppleWorks now wants to know how to treat the first cell reference in your formula. In our example, the bottom of the screen highlights the reference to cell A19 in the formula +A19*E19. Do you want the formula to remain unchanged and always refer to cell A19, or do you want AppleWorks to adjust the formula so it refers to a different row each time? That is, do you want the formula in row 20 to read +A19*E19 or do you want the formula to read +A20*E20?

You usually want the formula to be adjusted, and that is true in our example. Enter the letter "R" to indicate you want the reference to cell A19 to be made "Relative" to the row in which it appears. Enter a second "R" to indicate you want the reference to cell E19 also made "Relative". Your formula will now be copied into all the cells you specified.

A final reminder: Always put the cursor in the cell you want to copy *from* before you issue the Apple-C command.

—Cathleen Merritt

Finalize the Format

Now all the formulas are entered; it is time to finish formatting the spreadsheet.

27. Format columns E and F so they display numbers in dollar format with two decimal places. To do that, put the cursor in cell E18 and invoke the Layout Command (Apple-L). Indicate you want to format a "Block" and move the cursor to cell F34. Indicate you want the values to be in Dollar Format with two decimal places.

Note that the area was defined as a "block", not as columns. The cells in column E are empty. Empty cells cannot be formatted if they are defined as rows or columns; you must define the area to be formatted as a "block".

28. Issue an Apple-S command to save your work.

Now, you can prepare the top of the form, which will contain information about shipping and billing addresses. Start by centering the letterhead.

If you add up the spaces in columns A-F you will see that the spreadsheet is 68 spaces wide. The center of the spreadsheet is 34 spaces from the left edge of column A, or 15 spaces into column D.

29. To center your letterhead, use the Apple-L command to left-justify the first five rows in column D. Move the cursor to cell D1 and type a quotation mark. Press the Space Bar 15 times to move 15 spaces into column D. Now press the Delete Key once for every *two* characters in your letterhead. Type the first line of your letterhead.
30. Move the cursor so it is 15 spaces into column D in row 2 and again press the Delete Key once for each *two* characters in the address. Enter the address line.

Repeat this process as often as necessary until your letterhead is entered.
31. Move to cell A7 and type "Billing Address:".
32. Move to cell E7 and type "Shipping Address:".

Leave cells A8 through A11 and E8 through E11 blank to accommodate the billing and shipping addresses.

33. Move the cursor to cell A13 and enter a dashed line by typing a quotation mark, then holding the hyphen key down until dashes appear across your spreadsheet.
34. Move the cursor to cell A16 and repeat the process in step #33.
35. Move the cursor to cell A14 and type "Your PO #:".
36. Move the cursor to cell D14 and type "Our Invoice #:".
37. Move the cursor to cell E14 and type "Date:".

When you use the spreadsheet, the purchase order number, invoice number, and date will be entered in A15, D15, and E15 respectively. Remember to begin each entry with a quotation mark to indicate these are labels, if a letter is not the first character.

38. Issue an Apple-V command and turn the calculation back to automatic. Otherwise you will have to issue an Apple-K command to order all calculated values to appear in your spreadsheet.

39. Enter an Apple-O command to go to the Options Menu and adjust the margins and characters per inch to get the format you want.
40. Once again, issue an Apple-S command and save your spreadsheet template.
41. Print your spreadsheet template and see how it looks on the page.

Protect Your Work

Now you should protect your work so it cannot be changed inadvertently when you use the template. The technique is to protect the entire spreadsheet so nothing can be changed. Then, lower the level of protection of individual cells in the template. Follow these directions:

42. Move the cursor to cell A1 and issue an Apple-L

This invoice template will help your business. It demonstrates many useful spreadsheet techniques.

Spreadsheet Applications...

command. Indicate you want to change the layout of a block. Move the cursor down and to the right until the entire spreadsheet is highlighted.

43. Indicate that you want to change the "Protection" and that you want "Nothing" to be changed on the spreadsheet.

Now, follow these steps to selectively lower the level of protection on the appropriate cells so the billing and shipping addresses can be entered into the template:

44. Move the cursor to cell A8 and issue an Apple-L command. Indicate you want to change a block and define the block as all cells from A8 through F12. Change the level of "Protection" so "Anything" can be entered.

Next, you must lower the level of protection for purchase order number, invoice number, and date.

45. Move the cursor to cell A15 and invoke the Apple-L command. Indicate you want to

How to Handle Tax-Free Transactions

Some of your customers will probably be tax exempt and will not have to pay sales tax. Here is a method you can use so your invoice computes the correct amount due for taxable and tax-exempt buyers:

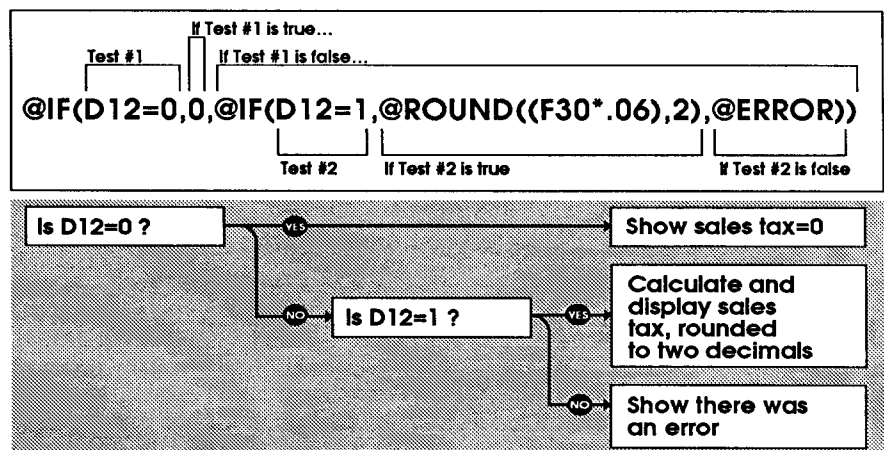
1. Find a convenient place in the spreadsheet and enter the label:

Taxable? (0=no, 1=yes)

I will assume you entered this label in cells A12-C12.

2. Enter the number "1" in cell D12. That will be your "default entry". Unless you change that entry, the invoice will assume that the transaction is taxable.
3. Change the formula in cell F31 so it uses the @IF function to "test" for the contents in cell D12. If cell D12 contains a one, you want the tax to be calculated. If cell D12 contains a zero, you want the tax to be zero. If cell D12 contains a value other than 0 or 1, you want to print "ERROR" in cell D12 to show that something is wrong.

Figure 2: Example of a "Nested-If" Statement



To test for the value in cell D12, you must put your formula within an @IF statement. An @IF statement has three parts: the test, what to do if the test is true, and what to do if the test is false. The generic @IF statement looks like this:

@IF(test,if true, if false)

In our example, we want to test if cell D12 has a zero. If true, we want a zero to appear in cell F31. If false, we want to test if cell D12 is equal to 1. If cell D12 is equal to 1, we want to compute the sales tax. If cell D12 is not equal to 1, we want to print the word "ERROR"

to show that something is wrong.

Enter the following formula in cell F31:

```
@IF (D12=0, 0, @IF (D12=1,
@ROUND ( (F30*.06) , 2) ,
@ERROR))
```

This type of formula is called a "nested if" formula; there is one @IF formula dependent on the operation of another @IF. Consider the two ways of visualizing a nested @IF formula presented in Figure 2.

If you can master @IF and nested-if formulas, you will add great power to your ability to use spreadsheets.

Spreadsheet Applications...

change a single entry and change the level of protection to allow "Labels Only".

46. Repeat step #45 for cells D15 and E15.

The next task is to unprotect the area holding information about product quantity, price, and description. Template users will enter *numbers* into column A for the quantity of each item ordered, *anything* into the "Stock Number" column (some stock numbers contain letters and hyphens), *anything* into the "Description" column, and *numbers* into the "Unit Price" column.

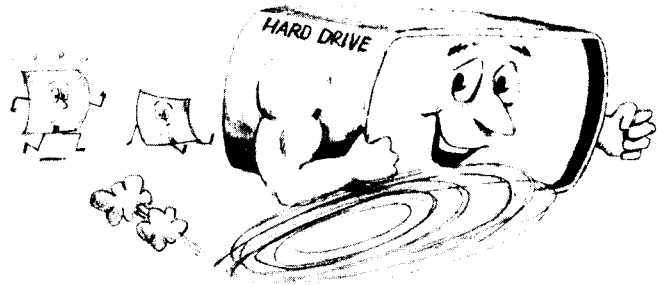
47. Move the cursor to cell A19 and issue an Apple-L command. Indicate you want to change a Block and highlight cells A19-A28. Indicate you want to change the level of protection and set the new level to allow "Values only".
48. Move the cursor to cell C19 and issue an Apple-L command. Indicate you want to change a Block and highlight cells C19-C28. Change the level of protection so the new value is to allow "Anything".
49. Repeat step #48 for cells D19-D28.
50. Move the cursor to cell E19 and issue an Apple-L command. Indicate you want to change a Block and highlight cells E19-E28. Change the level of protection so only values can be entered.
51. Issue an Apple-V command, select Protection, and indicate you want to turn the protection feature back on.
52. Move the cursor to cell A1, save your spreadsheet template and make a backup copy on a separate disk.

There you have it, a spreadsheet invoice and a number of techniques you might find helpful when developing business forms.

[Nancy Carr uses AppleWorks to help manage her business in Reynoldsburg, Ohio.]

Warren Williams teaches in the Educational Technology program at Eastern Michigan University. He is a technical advisor to NAUG and a frequent contributor to the AppleWorks Forum.]

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TimeOut Graph: Simple, Straightforward Graphing Power

by Hal Heidtman

TimeOut Graph is a program that adds chart and graph capabilities to the AppleWorks data base and spreadsheet modules. If you need to interpret data or present data to others, you should take a good look at Graph.

Functionality

Graph produces seven types of graphs and charts: bar charts, line graphs, X-Y graphs for formulas and scatterplots, pie charts, stacked bar charts, area graphs (line graphs with the area below the line filled), and Hi-Lo graphs. (Hi-Lo graphs show a range of values. They are called "Hi-Lo" because they are frequently used to show the daily high and low prices for a stock.) The graphs can be viewed on the screen, printed on most popular dot matrix printers, or saved on disk. If you have SuperFonts, Dazzle Draw, or other programs that can read picture files, you can enhance work done with Graph.

Examples of TimeOut Graph output on an ImageWriter printer appear on the next two pages as *Figures 1* through *6*.

How Graph Works

Graph has no data input mode; it reads data from the AppleWorks spreadsheet module. To construct a graph, you call up an existing spreadsheet, make a new one from scratch, or import data from an AppleWorks data base file using the Data Converter utility included with Graph.

With a spreadsheet on your screen, you summon TimeOut Graph by pressing the Apple and Escape Keys simultaneously, select the type of graph you want to produce, select the data from the spreadsheet you want to graph, add titles and legends, and view the graph on the screen.

There is a one-way "hot link" between the spread-

sheet and the graph; if you modify the spreadsheet, those changes are immediately incorporated into the graph. In addition, you can try different types of graphs and settings and view the results quickly, without having to re-create your work.

TimeOut emulates the AppleWorks environment. Once invoked, the Graph Main Menu appears across the bottom of the screen. Choices on this menu are Type, Data, View, Options, File, Reset, and Print. Each choice has additional sub-menus. As in AppleWorks, you make a selection either by moving the highlight and pressing the Return Key, or by typing the first letter of your choice.

Graph remembers your chart's data ranges and settings until you start to produce a new one. You can save the settings and graphs on disk and create chart templates that can be used repeatedly. For example, you may be responsible for producing a monthly or weekly report. Once you build your first chart for the report, you can save the settings for that graph. The next time you need the graph, enter the next report's data in your spreadsheet and re-use the settings from disk. This speeds the preparation of graphs and ensures consistency in the style and format of presentations.

Graph lets you change the scales on a graph and insert titles and subtitles. You can control shadings and pick one of three sizes (small, medium, and large) for printing.

Some of Graph's options are set by menus; others you enter directly into the AppleWorks spreadsheet you are graphing. For example, the shading of a pie chart is specified in the spreadsheet itself rather than by menus. *Figure 7* shows a spreadsheet designed to work with TimeOut Graph. Columns A through C contain information you might find in any AppleWorks spreadsheet. Column D holds

Figure 1:
Exploded Pie Chart

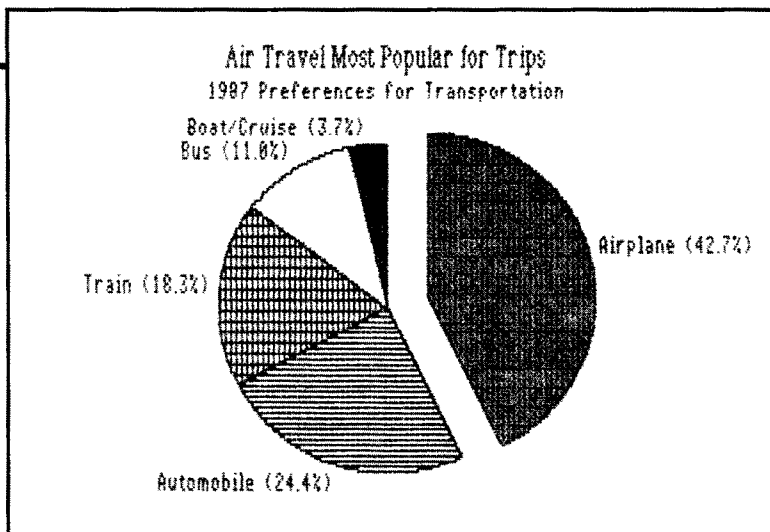


Figure 2:
Area Chart

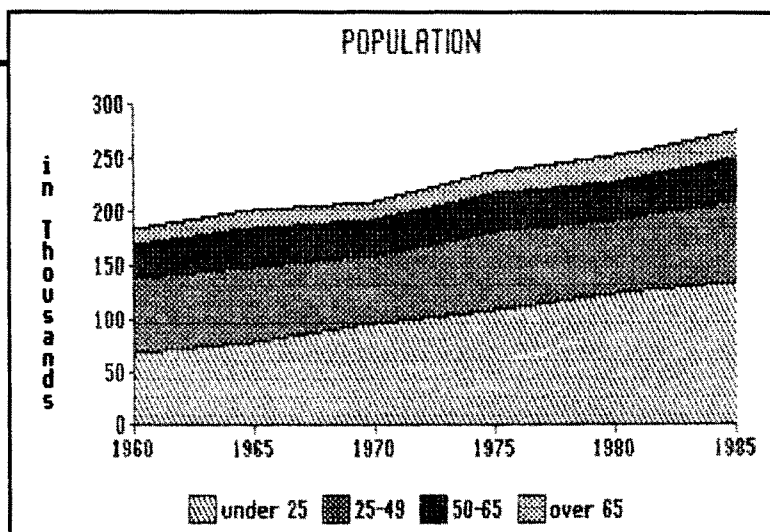
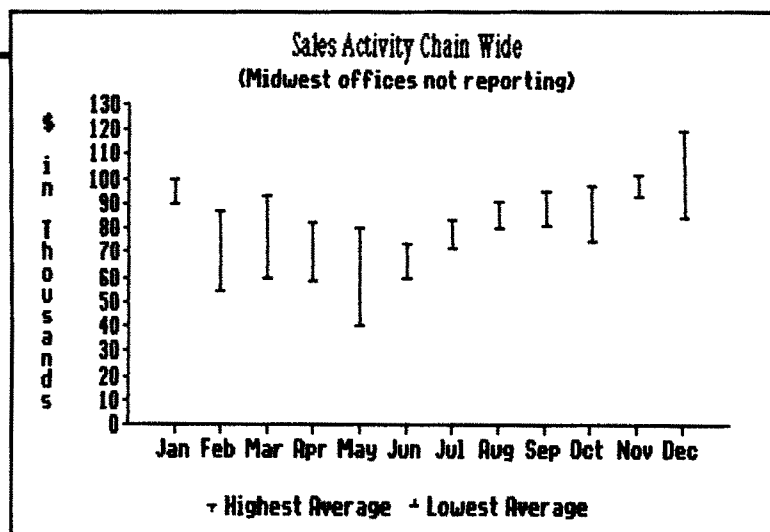


Figure 3:
Hi-Lo Graph



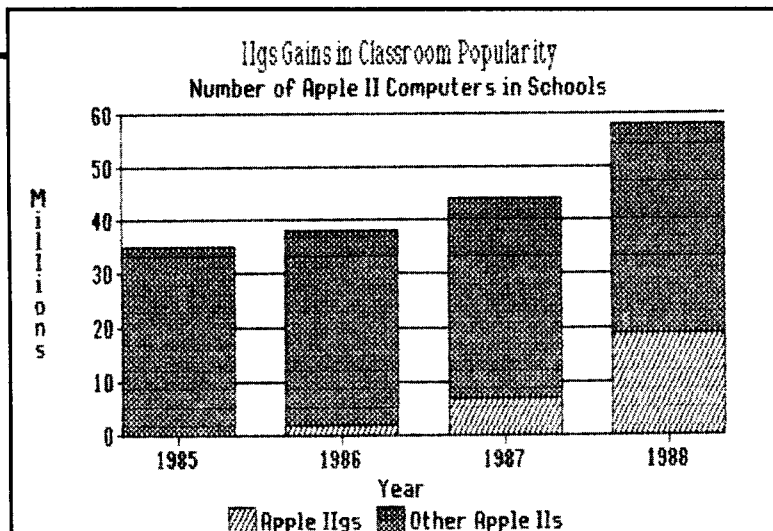


Figure 4:
Stacked Bar Graph

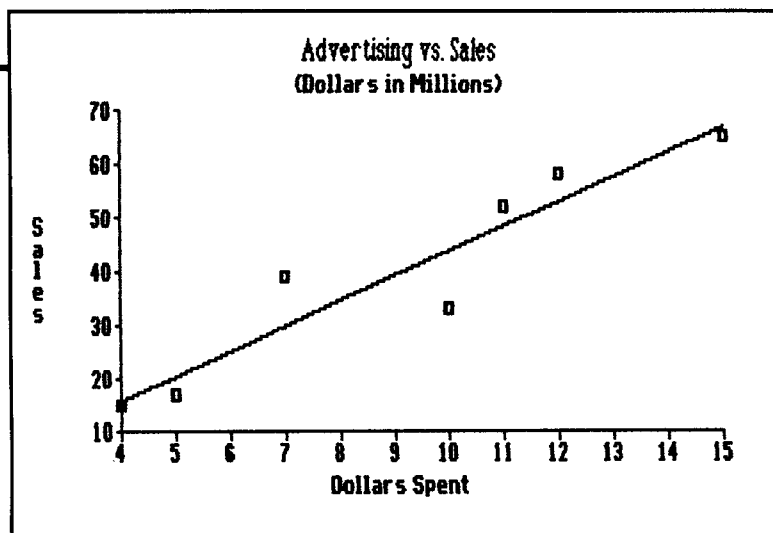


Figure 5:
Linear Regression

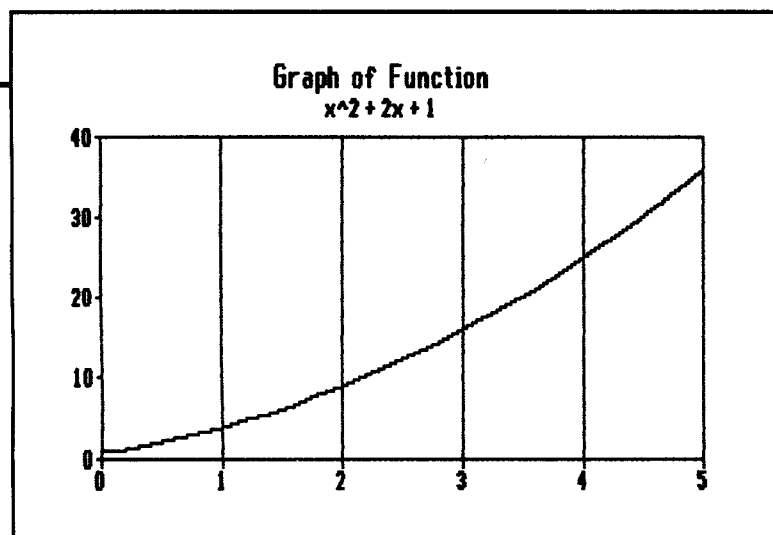


Figure 6:
X-Y Graph

information that Timeout Graph uses to draw the chart: 111 (Pattern number 11 plus 100) means to fill the slice with a gray pattern and "explode" this section from the main part of the chart. Pattern numbers 14, 15, 0, and 1 represent striped, checkered, white, and black patterns, respectively. Graph offers 15 patterns from which to choose.

Limitations

Like PFS:Graph and MECC Graph, but unlike GraphWorks and Graphic Edge, Timeout Graph lacks a full-screen editor. That means you cannot move labels around the screen or enter explanatory comments in your graphs. However, you can use another Timeout program, SuperFonts, to add text to the graph or to add the graph to an AppleWorks word processor document. Serious Graph users should think of Graph and SuperFonts as a package; you need them both to get the attractive, well-annotated graphs you want to produce.

Graph has some other important limitations. For example, it will not display or print graphs in color; even if you have a color monitor and color-capable printer. Nor will it produce graphs on plotters, laser printers, or color output devices.

Overall, I rate Graph's functionality as "good". The program produced useable but not elegant graphs.

Ease of Use

By their very nature, graphic programs are complex. You must tell a graphic program what type of graph to draw, indicate where the data are to be found, construct labels, control axes, and build a representation of several data points. The design and operation of Graph demonstrates careful attention to ease-of-use.

You will need the documentation to take full advantage of Graph. Although Graph is menu-driven, the program is not entirely intuitive. For example, you must look up the different pattern numbers to fill bars in a bar chart and you must know to add 100 to the pattern value of a pie chart segment to pull it from the other slices. Nor do the on-screen

Figure 7: Sample Graph Setup

=====A=====B=====C=====D==			
1	Air Travel Most Popular for Trips		
2	1987 Preferences for Transportation		
3			
4	Method	Number	Percent
5			Pattern
6	Airplane	35	43
7	Automobile	20	24
8	Train	15	18
9	Bus	9	11
10	Boat/Cruise	3	4
11			

prompts hint that Graph is capable of scatterplots that produce linear regressions. The documentation clearly explains these features. Like AppleWorks, this is a program you think you can learn from its menus. It's only when you read the manual that you discover its full capabilities.

Relative to other programs, Graph is about as difficult to use as PFS:Graph and Graphic Edge. It is more difficult to use than less powerful programs like GraphWorks and MECC Graph. Overall, I rate Graph as "good" in ease of use.

Documentation

Graph's 72-page manual includes four major sections: How to install Timeout, Tutorial, Reference, and Appendices.

The manual is well-written and does an excellent job of getting you started. The Graph disk includes sample data files you use in coordination with the 24-page tutorial in the manual. By the time you complete the tutorial, you will feel comfortable producing your first graph.

The 18-page Reference section includes additional information that does not appear in the tutorial. For example, the Reference section describes how to change the scales on a graph, lists the various patterns and symbols available, and describes how to redefine the data ranges. You should read the Reference section and the Appendices: They are short, easy to read, and helpful.

The manual also includes many helpful hints and suggestions about the graphic representation of

data. There are sections on picking the right type of graph for your data, designing appropriate forms for graph data, and arranging data points for a more pleasant display.

If there is a weakness in the manual, it is its lack of technical information. For example, the "Printer Problems" section is one paragraph that tells you to select a different printer and interface card from the menu. If that doesn't help, you are advised to call Beagle Bros' Technical Support Department.

I found Beagle Bros' technical support staff helpful and courteous. They were knowledgeable about Graph and answered my questions on the phone. They also told me something I didn't want to hear: You cannot easily customize the printer configurations for Graph. If your printer is not compatible with one of the printers and interface cards on the Graph or SuperFonts menus, you cannot use graph. Figure 8 lists the printers and interface cards that are compatible with TimeOut Graph; they are not listed on the box or in the documentation.

The manual is well indexed, although I would prefer more synonyms for terms in the index. For example, you must look under "Data Converter" or "data base files" to find information about how to convert data base information into the spreadsheet module. There is no entry for "convert", "conversion", or "transfer".

Overall, I rate the documentation as "very good".

Recommendation

In summary, Graph produces good black and white graphs on most popular dot matrix printers. While Graph does not offer a full-screen editor, color capability, or the ability to produce graphs with a plotter or laser printer, it represents a fast, easy-to-use program that should meet most users' needs to produce graphs representing spreadsheet data.

TimeOut Graph lists for \$89.95 and is available for

Figure 8: Supported Printers and Interfaces

PRINTERS

Apple DMP
Apple ImageWriter I/II
Apple Scribe
Blue Chip M120/10
Brother M-1009
C.I.TOH ProWriter
C.I.TOH 7500/8510
Epson AP-80

Epson FX Series
Epson JX Series
Epson LX-80
Epson MX-80/MX-100
Epson RX-80
IBM Graphics Printer
IDS 460/560
IDS MicroPrism

IDS Prism
Legend 1385
Okidata 84/92/93
Okidata 192/193
Okidata 192/193 (Apple)
Okidata 192/193 (IBM)
Panasonic KX-P1090
Panasonic KX-P1091

Panasonic KX-P1092
Smith-Corona
D100/200/300
Spirit 80
Star Delta/Gemini/Radix
Star NX-10

INTERFACE CARDS

Apple IIc Serial Port
Apple IIc Serial to Parallel
Apple IIcGS Serial Port
Apple Centronics Parallel
Apple Communications
Apple Parallel
Apple Serial
Apple Super Serial
Apricom Serial
CCS 7710a Serial
CCS 7720 Parallel
CCS 7728 Parallel
Dispatcher
Dual-Comm Plus

Dumpling 64
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Mountain Computer Serial
MPC AP-80
MPC AP-Graph
MPC AP-SIO
OmniGraph
Pkaso/Pkaso U
Pretty Print
Printer Pro
Printerface
Printmate
Printmax
Quadram APIC
Spies Niceprint/Super-MX

SSM-AIO Parallel
SSM-AIO Serial
SSM-APIO
SSM-APPIC
SSM-ASIO
Texprint Print-It
Tymac
VersaCard Parallel
VersaCard Serial
Videx PSIO Parallel
Videx PSIO Serial
Videx UniPrint
Wizard IPI

less than \$60 from mail-order discount vendors. TimeOut SuperFonts lists for \$79.95 and costs \$50 from discount vendors.

[Hal Heidtman is an Associate Principal at Anthony Wayne High School in Whitehouse, Ohio, a technical advisor to NAUG, and a member of the NAUG Editorial Review Board.]

TimeOut Series Update

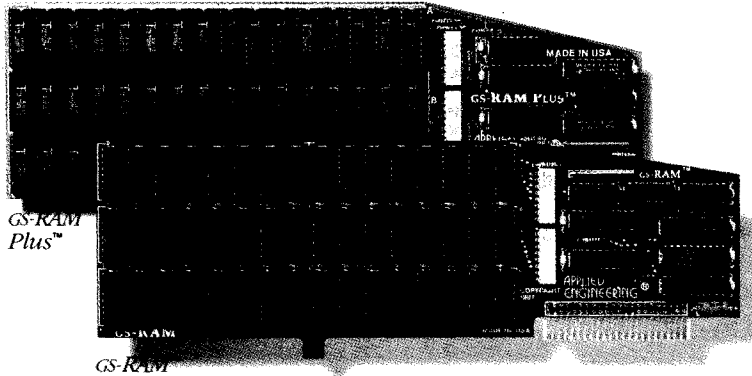
Beagle Bros maintains two policies regarding replacements of its products: a "bug fix" policy that replaces disks with known bugs, and an "update program" that helps you acquire the latest version of a software product.

The TimeOut programs are now covered by Beagle Bros update policy. That policy lets you purchase the latest version of a program for \$10 for the first disk and \$2.50 for each additional disk updated at the same time. Bug-fixes to correct defects in Beagle Bros products remain available at no charge.

To update to the latest version of a Beagle Bros product, send your original disks and payment to Update Department, Beagle Bros, 6215 Ferris Square, Suite 100, San Diego, California 92121.

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Applied Engineering's Expander program eliminates AppleWorks internal memory limits allowing it to recognize up to 8 megabytes of desktop workspace. You can increase the limits from only 7,250 lines to 22,600 lines in the word processor and from 6,350 records to 22,600 records in the database. The Expander allows all of AppleWorks, including print functions, to automatically load into RAM. The clipboard size will increase from 255 to 2,042 lines maximum. GS-RAM will automatically segment larger files so you can save them onto multiple floppies. And

GS-RAM provides a built-in print buffer that allows you to continue working in AppleWorks while your printer is still processing text. You can even load Pinpoint or MacroWorks and your favorite spelling checker into RAM for instant response.

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Steve Wozniak, the creator of Apple Computer

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Enhancing AppleWorks: AppleWorks and Pinpoint Patches

by Bruce Shanker

Here are two patches you can make to your copy of AppleWorks. One lets you print more than nine copies of a document. The other changes the Pinpoint communications module so 1200 baud becomes the default speed for your modem.

How to Print More than Nine Copies

AppleWorks normally can print up to 9 copies of a document. This patch modifies AppleWorks so you can print up to 255 copies of a document or report in response to the "How many copies?" prompt. Follow these directions:

1. Make a copy of your AppleWorks Program Disk; do all your work on the backup copy of the Program Disk.
2. Boot your Apple using the Utilities Disk that came with your computer and select the option that lets you exit into the BASIC language.
3. Insert your copy of the AppleWorks Program Disk in Drive 1 and type the following:

```
UNLOCK SEG.M1
```

and press the Return Key.

4. Type the following to patch the word processor module:

```
BLOAD SEG.M1,T$00,L1,A768,B36074
```

```
POKE 768,255
```

```
BSAVE SEG.M1,T$00,L1,A768,B36074
```

5. Type the following to patch the data base module:

```
BLOAD SEG.M1,T$00,L1,A768,B9185
```

```
POKE 768,255
```

```
BSAVE SEG.M1,T$00,L1,A768,B9185
```

6. Type the following to patch the spreadsheet module:

```
BLOAD SEG.M1,T$00,L1,A768,B65895
```

```
POKE 768,255
```

```
BSAVE SEG.M1,T$00,L1,A768,B65895
```

7. Type `LOCK SEG.M1`

This patch was developed by Randy Brandt and was originally published in Tom Weishaar's *Open-Apple* newsletter. Brandt's patch is also on the Patchmania disk reviewed in the January 1988 issue of the *AppleWorks Forum*.

Pinpoint Communications Patch

The following patch to the Pinpoint communications module changes the default baud rate from 300 to 1200. The patch originally appeared in *Points of Interest*, the newsletter published by Pinpoint Publishing.

1. Make a backup copy of the disk containing the file COMM.PP. That file is on the disk containing the Pinpoint Desk Accessories.
2. Boot your computer with the Utilities Disk in Drive 1 and exit to the BASIC language.
3. Insert the disk containing the backup copy of COMM.PP in Drive 1.
4. Type the following:

```
BLOAD COMM.PP,TSYS,A$2000
```

```
POKE 12153,1
```

```
POKE 12160,24
```

```
BSAVE COMM.PP,TSYS,A$2000
```

[Open Apple, Box 7651, Overland Park, KS 66207. (\$28 for 12 monthly issues).

Points of Interest, Pinpoint Publishing, 5865 Doyle Street, Suite 112, Emeryville, CA 94608. (\$10 for 6 bi-monthly issues).]

[Bruce Shanker is a mathematics teacher at Kensington High School in Philadelphia, PA]

How to Get Help with the AppleWorks Modules

by William Marriott

NAUG's Members Helping Members program continues to grow. More than 150 members now offer free telephone consulting help on 52 AppleWorks-related products. Our list of volunteers and products has grown so substantially that we have adopted a new format.

Each month, the *AppleWorks Forum* will list the names of volunteers who offer technical support for AppleWorks products. This month's list identifies the volunteers who can answer questions about the AppleWorks word processor, data base, and spreadsheet modules. Future issues will contain lists of members who offer help with hardware, printers, and AppleWorks software enhancements.

AppleWorks Modules

How to Use this List

Use this month's listing to find help with the AppleWorks modules. To the left of each consultant's name is one or more numbers indicating which AppleWorks modules the consultant supports. Consultants are listed alphabetically by state.

- 1 = Word Processor
- 2 = Data Base
- 3 = Spreadsheet
- 4 = Integration between modules

Alabama

- 1,2,3,4 Rebecca Cathey
Eutaw AL
205/ 372-3581 M-F 5pm-9pm;
S-S Noon-10pm
- 1,2,4 Tiny Laster
Tuskegee AL
205/ 727-8855 M-F 9am-6pm
205/ 727-5466 Daily 9pm-Midnight

Alaska

- 1,2,3,4 Ross Lambert
Unalakleet AK
907/ 624-3161 M-Sat 9am-9pm
GEnie R.W.LAMBERT

California

- 1,2 Stephen Brewer
San Bernadino CA
714/ 883-0365 Sun 7pm-10pm;
M 7pm-10pm
714/ 882-3308 T-F 10am-5pm
NAUG BBS #43
Compuserve 73277,2500
- 1,2,3,4 Bob Demmon
Coronado CA
619/ 435-0554 M-F 3pm-10pm;
S-S 9am-10pm
619/ 435-0520 M-F 3pm-10pm;
S-S 9am-10pm
NAUG BBS #8
Compuserve 70157,3607
- 1,2 Donna Ewing
Costa Mesa CA
714/ 556-3169 M-F 8:30am-4:30pm
- 1,2 Don Farrar
Pleasant Hil CA
415/ 932-5509 M-F 6pm-8pm
- 4 George Gray
Los Angeles CA
213/ 774-4131 M-F 10am-10pm
- 1,2,3,4 Terry Higgins
Hayward CA
415/ 887-7499 Daily 8am-11pm answ mach
NAUG BBS #117
GEnie T.HIGGINS1
The Source SIG049
- 1,2,3 Alan E. Kahn
San Anselmo CA
415/ 457-9827 M-F 8am-9pm
- 1,2,3 Berenice Maltby
Corona del Mar CA
714/ 640-7369 9am-9pm
- 1,2,3,4 Tom Militello
Rancho Palos Verdes CA
213/ 541-2766 M-F 4pm-8pm
NAUG BBS #118
- 1,2,3 Will Nelken
San Rafael CA
415/ 456-1798 M-F 10am-3pm
415/ 459-0845 M 3pm-9pm;
Sat 10am-10pm
- 1,2,4 Jim Pennington
Long Beach CA
213/ 420-8629 24-hr. answ mach
- 1 Dale Shields
Torrance CA
Compuserve 73177,2323
GEnie D.G.SHIELDS

Colorado

- 1,2,3,4 Gary Armour
Littleton CO
303/ 933-9493 M-F 5pm-10pm;
S-S 10am-10pm
- 1,2,3,4 Steve Feldman
Denver CO
303/ 428-6115 M-F 8am-8pm
- 1,2 David Gillaspie
Lakewood CO
303/ 431-6100 M-F 9am-5pm
303/ 988-0994 M-F 7am-8pm
- 1,2,3,4 Lyle Graff
Littleton CO
303/ 977-4557 M-F 8am-3pm
303/ 794-5970 M-F 6pm-9pm;
Sat Noon-9pm
- 3 Harry McMullen
Littleton CO
303/ 795-5510 Daily 4pm-9pm
GEnie HARRYMC
- 1,2,4 Carol McPeck
LaSalle CO
303/ 284-5508 Daily 8am-Noon
- 1,2,3,4 Larry Thaete
Boulder CO
303/ 939-9072 MWF 5pm-9pm
303/ 492-2717 M-F 9am-3pm

Connecticut

- 1,2,3,4 Martin Knight
Middletown CT
203/ 346-9698 Daily 6pm-9pm
NAUG BBS #101
GEnie M.KNIGHT
- 1,2,4 John R. Robinson
Niantic CT
203/ 739-7435 Daily 9:30am-2pm
- 1,2 Newton Shaffer
Gales Ferry CT
203/ 464-9716 Daily 4pm-11pm

Florida

- 1,2,3,4 John Andrianoff
Ft. Pierce FL
305/ 466-6653 School Days 3:30pm-
8:30pm;
Other Days Noon-8pm
- 1,2,3,4 Thomas Stanius
Opa Locka FL
305/ 375-2095 ext. 8691 M-F 8am-5pm
305/ 624-6142 M-F 6pm-Midnight;
S-S 10am-10pm
- 1,2,3,4 Jeff C. Strichard
Ft. Lauderdale FL
305/ 587-9590 M-F 6pm-11pm; S-S all day
305/ 763-3883 M-F 9am-4pm

Georgia

- 1,2,3,4 Jim Sulsona
Doraville GA
404/ 455-0853 Daily 9am-Midnight
NAUG BBS #69
Compuserve 76440,227
404/ 446-9048 #187

Illinois

- 1,2,3,4 Sharon De Kirmandjian
Libertyville IL
312/ 680-1974 M-F, 2pm-10pm
- 1,2,4 J. Terry Flynn
Lake Bluff IL
312/ 680-0980 M-F 8am-5pm
312/ 234-2820 M-F 6pm-9pm;
S-S 10am-9pm
The Source TCK890
- 1,2,4 Connie Peters
Decatur IL
217/ 875-2431 School Days 7:30am-3pm
217/ 429-6242 Other Times
- 1,2,3,4 Dennis Ricke
St. Charles IL
312/ 377-4829 School hours
- 1 Walter Schillinger
Oak Park IL
312/ 386-2278 M-F 5pm-6:30pm
312/ 451-3000 Daily 8am-10am,
2:30pm-3:30pm
- 1,2,3 Bowen Schumacher
Winnetka IL
312/ 256-1771 S-S 11am-5pm
212/ 546-0633 M-F 9am-7pm
- 1,2,3,4 Michael Warner
Glenn Ellyn IL
312/ 790-0330 M-F 8am-5pm
312/ 469-2543 M-F 5pm-10pm;
S-S 10am-10pm
- 1,2,3,4 Victor Weisskopf
Lincolnwood IL
312/ 674-7400 M-F 9am-5pm

Indiana

- 1,2,3,4 Stanley Boler
Knightstown IN
317/ 345-5663 M-F 5pm-11pm
- 1,2,3,4 Brenda Crenshaw
Shelbyville IN
317/ 264-1286 M-F 7am-5pm
317/ 398-0525 M-F 6pm-9pm; S-S anytime
- 1,2,4 Irvin Haas
Carmel IN
317/ 848-0050 M-F 3:30pm-10pm;
S-S 10am-10pm
- 1 Mark Hochstetler
Indianapolis IN
317/ 783-8821 MTF 1pm-5pm;
WTh 8am-5pm
317/ 299-3156 M-F 7pm-10pm;
S-S 10am-10pm

Iowa

- 1,2,3 Roger Christian
Iowa City IA
319/ 337-2189 M-F 9am-5pm
319/ 338-7350 M-F 7pm-10pm
- 1,2,3 Dan York
Marion IA
319/ 373-1883 M-F 5pm-10pm;
S-S 10am-10pm
319/ 373-2083 M-F 5pm-10pm

Kansas

- 1,2,3,4 Dick Fogliasso
Girard KS
316/ 724-4330 M-F 8am-9am, 3pm-4pm
316/ 724-4590 S-S 9am-9pm
Compuserve 73710,20
- 2,3 Marcia Philbrick
Seneca KS
913/ 336-3557 School Days 8am-4pm
913/ 336-3645 Other Times 7pm-10pm

Massachusetts

- 1,2,3,4 Pamela Michaelson
Marblehead MA
617/ 631-0918 M-F 9am-Noon
- 2,3 Richard Nash
North Reading MA
617/ 664-5400 M-F 8am-4pm
- 1,2 Jeff Weisenfreund
Newton MA
617/ 965-028 Daily 8pm-11pm

Maryland

- 1,2,3,4 Ron Jacobs
Laurel MD
301/ 498-0558 M-F 6pm-10pm
Sat 10am-10pm; Sun Noon-10am
301/ 725-3228 M-F 8:30am-3pm
- 2 David Ottalini
Silver Spring MD
301/ 681-5792 M-F 6pm-9pm
Compuserve 72457,241
- 1,2,3,4 Ronald Romanowicz
Glencoe MD
301/ 472-4800 Daily 8am-4pm
301/ 472-2983 Daily 4pm-11pm
- 1,2,3 Michael Spurrier
Baltimore MD
301/ 298-0263 Daily 6pm-11pm
301/ 955-5938 school days 11am-1pm

Michigan

- 1,2,3,4 Dawn Andrews
Muskegon MI
616/ 755-4308 M-F 4pm-10pm
- 1,2,3,4 Jim Anker
Hazel Park MI
313/ 542-3910 M-F 9am-4pm
313/ 391-0033 M-F 6pm-10pm;
S-S 1pm-9pm
- 1,2,3,4 Quality Computers
Grosse Pointe MI
313/ 885-4270 Daily 9am-5pm
313/ 885-4215 Daily 9am-5pm
- 2,3,4 Joe Connelly
Livonia MI
313/ 421-8729 M-F 9am-9pm
NAUG BBS #21
- 1,2,3,4 Arthur Daniel
Warren MI
313/ 445-7142 M-Th 7am-4pm
313/ 445-7105 M-Th 7:30am-8pm;
F 7:30am-4pm
- 1,2 Jane Harris
Grand Rapids MI
616/ 458-2653 Sat Noon-11pm;
Sun 10am-11pm

Codes

- 1=Word Processor
- 2=Data Base
- 3=Spreadsheet
- 4=Integration between modules

- 1,2,3 Lynn Leininger
Monroe MI
313/ 241-4021 M-F 4pm-10pm;
S-S 10am-10pm
NAUG BBS #313
Compuserve 73277,2420
- 1,2,3 Richard Lewandowski
Ann Arbor MI
313/ 426-5031 M-S 6pm-9pm
313/ 482-9494 M-F 9am-4pm
NAUG BBS #1
- 1,2,3,4 Bill Neef
Grass Lake MI
517/ 522-4689 Daily 8am-10pm
- 1,2,3 J. O'Connor
Rochester MI
313/ 853-1260 Daily 10am-9pm
NAUG BBS #99
- 1,2,3,4 Mike Robinson
Royal Oak MI
313/ 585-5027 M-F 6pm-10pm;
S-S 10am-10pm
NAUG BBS #411
Michigan AppleGram 313/ 292-0389 #15
- 1,2,3,4 Pete Ross
Wayne MI
313/ 728-8720 answ mach
- 1,2,3 Brian Theil
Taylor MI
313/ 287-4608 M-F 6pm-10pm;
S-S 10am-10pm
Compuserve 71320,221
- 1,2,3,4 Richard Zajac
Mt. Clemens MI
313/ 465-2615 M-F 6pm-11pm;
S-S 8am-11pm
313/ 465-5040 answ mach
NAUG BBS #198
Compuserve 71540,1602
- 1,2,3,4 Keith Zuuk
Grosse Ile MI
313/ 675-1550 Daily 8am-4pm

Minnesota

- 1,2 Norman E. Hecimovich
Austin MN
507/ 433-3425 M-F 7:30am-5pm
507/ 437-4245 Daily 5pm-10pm
- 1,2,3,4 James Hirsch
Coon Rapids MN
612/ 755-8082 M-F 6pm-10pm
612/ 755-8220 M-F 7:30am-4pm
GEnie JHIRSCH
- 1,3 Dick Kenfield
Hopkins MN
612/ 938-4382 M-F 4pm-9pm; S-S all day
Compuserve 71540,373

- 1 Penelope Krosch
Stillwater MN
612/ 436-5405 M-F 6pm-10pm;
S-S 10am-5pm

Missouri

- 1,2,3,4 Whit Crowley
Manchester MO
314/ 394-7955 M-F 6pm-9pm;
S-S 10am-6pm
Compuserve 70176,1167
- 1,2,3 Lynn Leopard
Chillicothe MO
816/ 646-0702 M-F 8am-8:30am,
2:30pm-3:30pm
816/ 646-4196 Daily 5pm-9pm

Mississippi

- 1 Bill Brescia
Union MS
601/ 656-5251 ext. 156 M-F 8am-4:30pm
601/ 774-5609 24-hr answ mach

Montana

- 1,2,3 Esther Hamel
St Ignatius MT
406/ 745-4455 Daily 10am-10pm
- 1,2,3 Bob Shipek
Great Falls MT
406/ 791-2130 Daily 8am- 5pm
406/ 452-9104 Daily 9pm-Midnight
Compuserve 76067,3221

Nebraska

- 1,2,3,4 Larry B. McEwen
Hastings NE
402/ 463-1387 M-F 8am-4pm
402/ 463-2267 Daily 5pm-9pm
NAUG BBS #188
GEnie L.MCEWEN

New Hampshire

- 1,2,3,4 Christine MacLeod
Concord NH
603/ 224-0520 MTh 7pm-9pm

New Jersey

- 1 Les Blatt
Maplewood NJ
Compuserve 73647,3157
- 1,2,3,4 Pete Crosta
Nutley NJ
201/ 667-6369 M-F 3pm-10pm
201/ 667-2928 S-S 8am-10pm
201/ 266-4335 M-F 8:30am-3pm
NAUG BBS #230
Compuserve 70601,35
GEnie P.S.R.CROSTA
InCider #878
- 2 Edwin C. Doe
Pt. Pleasant NJ
201/ 528-6349 8am-11pm answ. serv.
or modem
GEnie E.DOE
201/ 528-6349
- 1,2,3,4 David Edwards
Camden NJ
609/ 966-6767 M-F 9am-5pm
609/ 365-1359 M-F 6pm-9pm

- 1,2 Matthew Jones
Neptune NJ
201/ 774-0983 M-F 6pm-8pm

- 1,2,3,4 Link Keur
Edison NJ
Compuserve 76237,302

- 1,2,3 Linda Nixon
Chatham NJ
201/ 635-0973 M-F 5pm-9pm;
S-S 11am-5pm

- 1,2 Stuart Schneider
Teaneck NJ
201/ 568-3336 M-F 9:30am-5:15pm
201/ 261-1983 M-F 6pm-10pm;
S-S 10am-11pm

- 1,2 David Jay Scott
Wall NJ
201/ 681-0600 Daily 6pm-10pm

- 1 Suzanne Thomas
Tinton Falls NJ
201/ 842-7699 Daily 9am-3pm, 7pm-9pm
Compuserve 76012,1145

Nevada

- 1,2,3,4 Jon S. Greene
Sparks NV
702/ 359-3266 M-Sat 7pm-9pm;
Sun 9am-6pm
702/ 825-9251 M-Sat 10am-5pm

New York

- 1,2,3,4 Bob Beer
Coram NY
516/ 928-6870 Daily 6pm-9pm
- 2 Fred Brothers
New York NY
212/ 732-7072 M-F 9am-5pm
- 1,2 Cynthia Gillmore
Johnstown NY
518/ 762-8483 M-F 7am-5:30pm;
S-S 10am-10pm
518/ 725-4016 M-F 8am-4pm
518/ 661-6277 Summer, M-F 6pm-10pm
- 1,2,3,4 Sister Mary Gregory
Watertown NY
315/ 782-3460 M-F 3pm-9pm
315/ 788-4670 Daily 2pm-3pm
- 1,2,3,4 Don Menges
Rochester NY
716/ 544-9398 Daily 8pm-11pm
NAUG BBS #126
Compuserve 75776,443
GEnie VSXER
- 1,2 Harold S. Miller
Ozone Park NY
718/ 641-5208 Daily 10am-5pm;
M-F 7pm-9pm
- 1,2,4 Betty M. Minemier
Dansville NY
716/ 335-3186 M-F 7am-4pm
716/ 335-6258 Other Times
- 1,2,3,4 James Nicoll
Pittsford NY
716/ 546-6732 M-F 7:30am-2pm
716/ 381-9480 M-F 7pm-10pm;
S-S 10am-10pm

- 1,2 Walter Taylor
W. Henrietta NY
716/ 263-7700 ext. 269 M-F 8am-5pm
716/ 359-2857 Other Times
BBS: 716/ 235-3698 Box 0070

North Carolina

- 1,2,4 Terry W. Robertson
Charlotte NC
704/ 377-0111 M-F 8am-6pm
704/ 536-4261 Daily 7:30pm-10pm

Ohio

- 1,2,3,4 Mark Ball
Paris OH
216/ 862-3277 M-F 6pm-10pm
216/ 627-7606 M-F 8am-3pm
- 1,2,3,4 Jessie Beale-Hansen
Cincinnati OH
513/ 751-6834 M-F 7pm-10pm
513/ 241-6400 M-F 9am-11am; 3pm-5pm
- 1,2,3,4 William Beasley
N. Olmsted OH
216/ 777-7700 ext. 282 M-F 8am-4pm
216/ 933-4408 ans w mach
Compuserve 71106,574
- 1 Mark Elliot
Hudson OH
216/ 686-2280 M-F 9am-5pm
216/ 653-5006 S-S 6pm-11pm
GEnie G.ELLIOT
- 1,4 Carman Greco
St. Clairsville OH
614/ 695-5026 M-F 3pm-9pm;
S-S 9am-9pm
- 1 Florence Hoechstetter
Columbus OH
614/ 231-3992 Daily 6pm-10pm
- 1,2,3,4 Guy R. Moore
Oxford OH
513/ 746-6333 M-F 9am-4pm
513/ 529-7584 M-F 8am-4pm
513/ 523-3797 Daily 7pm-10:30pm
- 1,2,3,4 Robert Netro
Canton OH
216/ 477-3667 8am-11am; 1pm-4pm
- 3 Bill Ries
Cincinnati OH
513/ 941-7831 Daily 8:45am-2:45pm
513/ 941-7933 Daily 4:30pm-10:30pm
- 1,2,3,4 Patricia Ritchey
Bowling Green OH
419/ 372-7038 M-F 8am-4pm
419/ 673-0040 M-F 7pm-10pm;
S-S 10am-10pm
- 1,2,3,4 Mاتيwyne Winton
Stockport OH
614/ 559-2816 MTThF 5pm-9pm;
S-S 10am-10pm

Oregon

- 1,2,3 Calvin Behrens
West Linn OR
503/ 655-0058 M-F 9am-5pm
503/ 636-0762 M-F 5pm-10pm;
S-S 10am-10pm

- 1,2,3,4 Jim Emig
Portland OR
503/ 280-5666 M-F 7am-4pm
503/ 771-1916 M-F 6pm-9pm;
S-S 10am-10pm

Pennsylvania

- 1,2,3,4 Larry Beatty
Hopwood PA
412/ 439-4912 Daily 9am-10pm
- 1,2,4 David Chesebrough
Sewickley PA
412/ 241-5129 MTTh 7pm-9pm
- 1,2,3,4 Martin Friedman
Philadelphia PA
215/ 473-6135 M-S 3pm-10pm
NAUG BBS #45
Compuserve 76676,1057
- 2 John Nied
Danville PA
717/ 275-4111 School Hours
- 1,2,3,4 Joel Perlish
Havertown PA
215/ 789-7673 Daily 9am-10pm
- 1,2,3,4 Don Pratt
Bloomsburg PA
717/ 389-4639 M-F 9am-4pm

South Carolina

- 1,2 Oliver Roosevelt
Fairforest SC
803/ 576-1270 M-F 8am-1pm
803/ 574-1104 M-F 5pm-10pm
NAUG BBS #162
Compuserve 76446,1046
GEnie O.ROOSEVELT
- 1,2 Charlotte White
Union SC
803/ 427-1389 MTThF 7pm-9pm
NAUG BBS #387

Tennessee

- 1,2,3,4 Major Michael Sutter
Clarksville TN
502/ 798-8203 Daily 6am-2pm
615/ 552-0973 Daily 5pm-9pm

Texas

- 1,2,3 Richard Buro
Temple TX
817/ 778-0386 Daily 6am-9pm ans w mach
- 1,2 Martha (Polly) Davis
Baytown TX
713/ 422-7560 M-S, 5pm-10pm
- 1,2,3,4 Ron Franzetti
Austin TX
512/ 331-8061 5pm-10pm
- 2 Jeff Holcomb
Carrollton TX
817/ 465-7978 M-F 7pm-10pm;
S-S 10am-10pm
- 1,2,3 Joseph Kline
Lubbock TX
806/ 796-0829 Daily 8am-9pm
- 1,2,3,4 Ralph Logan, Jr.
Fort Worth TX
817/ 281-0661 TThF 2pm-5pm
GEnie R.LOGAN2
Fort Worth STARTEXT 50411

Members Helping Members Data Base Available on Disk

You can now get an electronic copy of NAUG's Member Helping Members data base. The file contains a list of more than 150 consultants and the technical support they offer.

Use the Apple-R command in the data base module to search this list for volunteers who offer the technical support you need.

The Members Helping Members Disk is available from NAUG's Public Domain Library for \$4 per disk, plus \$2 shipping and handling per order (Foreign postage: \$4).

- 1,2,3,4 Bob Oberholtzer
Houston TX
713/ 664-2011 M-F 9am-6pm
713/ 664-1795 M-F 6pm-8:30pm;
Sat 2pm-7pm
713/ 664-2011 24-hr ans w serv

Vermont

- 1 Lars Baris
Essex Jct. VT
802/ 878-1392 Daily 7am-2pm

Virginia

- 1,2,3,4 H. Joseph Dobrowski
Langley AFB VA
804/ 865-7520 M-F 6pm-10pm
S-S 10am-10pm
- 1,2 Warren Downes
Yorktown VA
804/ 898-8386 M-F Noon-4pm
804/ 898-1881 M-F 4pm-10pm;
Sat Noon-10pm
- 1,3 William W. Sanderson
Merrifield VA
703/ 352-1568 M-F 6pm-10pm
703/ 820-8550 Daily Noon-1pm

Washington

- 1,2,4 Thomas Chambers
Fox Island WA
206/ 549-4114 M-F 5pm-9pm;
S-S 10am-10pm
- 1,2,3 Nancy Langlow
Redmond WA
206/ 455-6052 M-F 8am-4:30pm
206/ 868-7254 Daily 5pm-10pm

Modules...

Wisconsin

- 1,3 Donald Chase
Omro WI
414/ 685-5681 Daily 6pm-9pm
- 1,2,3,4 Neil Johnson
Eau Claire WI
715/ 834-8104 M-F 8am-3:45pm
- 1,2,3,4 Peter Lee
Milwaukee WI
414/ 344-6807 Daily 8am-10pm, ans w mach
414/ 229-6180 M-F 9am-5pm
Compuserve 73317,243
- 1,2,3,4 Jerry K. Miller
Milwaukee WI
414/ 321-3820 M-F 10am-2pm
414/ 425-0778 M-F 8pm-10pm
- 1,2,3,4 Mike Starck
Milwaukee WI
414/ 545-5233 M-F 7am-5pm
- 2,3,4 Paul Van Wyk
Appleton WI
414/ 731-0941 Daily 9am-4pm
414/ 739-6503 Daily 7pm-10pm

Foreign/APO

- 1,2,3,4 Harve Thorn
Mexico City Mexico
905/ 516-0720 ext 135 M-F 8am-2pm
- 1,2 Brian Scully
Kitchener Ontario Canada
519/ 744-2064 M-F 9pm-10pm;
S-S Noon to 10pm

Applied Engineering Update

Applied Engineering continues to issue new releases of its AppleWorks 2 Expander desktop expansion software to correct minor problems that occur with unusual hardware combinations. The table below lists the current versions of the AppleWorks 2 Expander for different computer systems:

System	Version
Ile w/ RamWorks	2.0 or later
Iic w/ Z-RAM	2.0 or later
II+	2.5.1 or later
IIGs w/ RAM cache	2.5.2 or later
IIGs w/out RAM cache	2.0 or later

If you have an earlier version of the AppleWorks 2 Expander, you can get free upgrades from most Applied Engineering dealers. Alternatively, you can get the latest version of the AppleWorks 2 Expander for \$10 directly from Applied Engineering, Box 798, Carrollton, Texas 75006 (214) 241-6060.

Public Domain Update: Corrections to HOME01 Disk

HOME01, a disk of NAUG AppleWorks public domain templates, includes 16 files to help you maintain tax records, balance your checkbook, compute loan payments, get medical advice, subdivide recipes into small portions, and keep track of things around your home.

HOME01 is a double-sided disk, but some copies distributed to members had files on only one side. If you ordered HOME01 and received a single-sided copy, please return your original to NAUG for a free replacement.

Electronic Index Disk Update

The list to the right contains the April 1988 update for the Index Disk. The first section contains the data for the file "Forum Index". The second section contains the data for the file "Key Words". Directions for updating the Index Disk appeared in the February 1988 *AppleWorks Forum*.

NAUG updates the Index Disk monthly. The latest version can be ordered from the NAUG Public Domain Library (\$4 per disk; \$2 postage per order). Current updates can be downloaded from the NAUG bulletin board, (313) 482-8090.

Electronic Index Disk April 1988 Update:

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Letters to NAUG • 5 • What Does a "No 'SYS' Files" Message Mean? • Cova, Sam • ProDOS

Letters to NAUG • 5 • Buying Multiple Copies of AppleWorks • Dempster, Suzanne • Claris; AppleWorks; Education; Special Programs

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News • 6 • Claris to Release Network-Compatible AppleWorks • Marriott, William • Claris; AppleWorks; AppleTalk; Upgrades; Education; Networks

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Spreadsheet Tip • 11 • How to Use the Copy Command • Merritt, Cathleen • Spreadsheet; Copy Command; Formulas

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Public Domain Update • 27 • Corrections to HOME01 Disk • n/a • Corrections; Updates; Upgrades; Templates

New Key Words for April: AppleTalk; invoices; Copy Command

NAUG
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Seminar Schedule

NAUG sponsors AppleWorks seminars in various locations throughout the country. These seminars, entitled "AppleWorks: Beyond the Basics", are intended for AppleWorks users who want to solve AppleWorks problems and learn new techniques.

Seminar schedule:

April 23 — Columbus, OH
April 23 — Atlanta, GA
April 25 — Orlando, FL
April 27 — Ft. Lauderdale/Miami, FL
April 29 — Washington DC/Baltimore, MD
April 30 — Philadelphia/Valley Forge, PA
May 2 — Iselin, NJ (Newark/Elizabeth)
May 7 — Cincinnati, OH

The presenters, Dr. Warren Williams and Hal Heidtman, are technical advisors to NAUG and frequent contributors to the **AppleWorks Forum**. Write or call NAUG for more information.